## WHAT IS CLAIMED IS:

1	1.	A method for storing input groups of uncoded binary data on a storage
2	medium, com	orising:

- receiving a plurality of uncoded data blocks in a data stream;
- 4 generating one corresponding encoded data block for each uncoded data
- 5 block, wherein an encoded data stream obtained from concatenating successive
- 6 encoded blocks includes a predetermined bit pattern comprising a plurality of bits,
- 7 wherein the bit pattern always occurs within a first number of bits and two
- 8 occurrences of a "1" and "0" occur within a second number of bits; and
- 9 storing the encoded data stream on the storage medium.
- 1 2. The method of claim 1, wherein the first number is greater than the 2 second number.
- 1 3. The method of claim 1, wherein the predetermined bit pattern
- 2 represents a maximum amplitude peak in a constrained waveform that is guaranteed
- 3 to occur within the first number of bits.
- 1 4. The method of claim 1, wherein the encoded data blocks are generated 2 using an encoder table.
- The method of claim 1, wherein decoding the encoded data block by determining the decoded data block corresponding to the encoded data block.
- 1 6. The method of claim 1, wherein the encoding function is performed by 2 a finite state code.
- 7. The method of claim 6, wherein one encoded data block corresponds
- 2 to multiple uncoded data blocks, and wherein a value of at least one adjacent block is

- 3 used to determine the uncoded data block that corresponds to the encoded data block
- 4 corresponding to multiple uncoded data blocks.
- 1 8. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises "010", each uncoded data block comprises eight bits, and each encoded
- 3 data block comprises nine bits.
- 1 9. The method of claim 8, wherein the first number comprises twelve and
- 2 the second number comprises six.
- 1 10. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises "010", wherein each uncoded data block comprises sixteen bits and
- 3 wherein each encoded data block comprises seventeen bits.
- 1 11. The method of claim 10, wherein the first number comprises twenty
- 2 bits and the second number comprises fourteen bits.
- 1 12. The method of claim 10, wherein a correspondence of uncoded to
- 2 encoded data blocks comprises a finite state code scheme.
- 1 13. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises "111", wherein each uncoded data block comprises nine bits and wherein
- 3 each encoded data block comprises ten bits.
- 1 14. The method of claim 13, wherein the first number is fourteen.
- 1 15. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises "111", wherein each uncoded data block comprises sixteen bits, and
- 3 wherein each encoded data block comprises seventeen bits.

- 1 16. The method of claim 15, wherein the first number is twenty-one.
- 1 The method of claim 15, wherein a correspondence of uncoded to
- 2 encoded data blocks comprises a finite state code scheme.
- 1 18. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises either "0100" or "0010", wherein each uncoded data block comprises nine
- 3 bits and wherein each encoded data block comprises ten bits.
- 1 19. The method of claim 18, wherein the first number is twelve.
- 1 20. The method of claim 1, wherein the predetermined bit pattern
- 2 comprises either "0100" or "0010", wherein each uncoded data block comprises
- 3 sixteen bits.
- 1 21. The method of claim 20, wherein each encoded data block comprises
- 2 seventeen bits and wherein the first number comprises nineteen bits.
- 1 22. The method of claim 20, wherein a correspondence of uncoded to
- 2 encoded data blocks comprises a finite state code scheme and wherein the first
- 3 number is fifteen.
- 1 23. The method of claim 1, wherein the encoded data block can be used in
- 2 partial response and extended partial response systems.
- 1 24. The method of claim 1, wherein the predetermined bit pattern is
- 2 included in one encoded data block or spans two encoded data blocks.

- A system for storing input groups of uncoded binary data on a storage 1 25. 2 medium, comprising: means for receiving a plurality of uncoded data blocks in a data stream; 3 means for generating one corresponding encoded data block for each uncoded 4 data block, wherein an encoded data stream obtained from concatenating successive 5 encoded blocks includes a predetermined bit pattern comprising a plurality of bits, 6 wherein the bit pattern always occurs within a first number of bits and two 7 occurrences of a "1" and "0" occur within a second number of bits; and 8 means for storing the encoded data stream on the storage medium. 9
- 1 26. The system of claim 25, wherein the first number is greater than the 2 second number.
- 1 27. The system of claim 25, wherein the predetermined bit pattern 2 represents a maximum amplitude peak in a constrained waveform that is guaranteed 3 to occur within the first number of bits.
- 1 28. The system of claim 25, wherein the encoding function is performed 2 by a finite state code.
- 1 29. The system of claim 28, wherein one encoded data block corresponds 2 to multiple uncoded data blocks, and wherein a value of at least one adjacent block is 3 used to determine the uncoded data block that corresponds to the encoded data block 4 corresponding to multiple uncoded data blocks.
- 1 30. The system of claim 25, wherein the predetermined bit pattern 2 comprises "010", each uncoded data block comprises eight bits, and each encoded 3 data block comprises nine bits.

operations comprising:

36.

greater than the second number.

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			-15-	Docket No. TUC920010037US Firm No. 0022.000		
1	31.	The system of clair	m 25, wherein the pr	redetermined bit pattern		
2	comprises "1	11", wherein each ur	ncoded data block co	omprises nine bits and wherein		
3	each encoded data block comprises ten bits.					
1	32.	The system of claim	m 25, wherein the p	redetermined bit pattern		
2	comprises "1	11", wherein each ur	ncoded data block co	omprises sixteen bits, wherein		
3	each encoded data block comprises seventeen bits.					
1	33.	The system of clai	m 25, wherein the p	redetermined bit pattern		
2	comprises either "0100" or "0010", wherein each uncoded data block comprises nine					
3	bits and wherein each encoded data block comprises ten bits.					
1	34.	The system of clai	m 25, wherein the p	redetermined bit pattern is		
2	included in o	one encoded data bloo	ck or spans two enco	oded data blocks.		
1	35.	An article of manu	ufacture including co	ode for storing input groups of		
2	uncoded bina	ary data on a storage	medium, wherein th	ne code is capable of causing		

receiving a plurality of uncoded data blocks in a data stream;

block, wherein an encoded data stream obtained from concatenating successive

wherein the bit pattern always occurs within a first number of bits and two

occurrences of a "1" and "0" occur within a second number of bits; and

storing the encoded data stream on the storage medium.

encoded blocks includes a predetermined bit pattern comprising a plurality of bits,

generating one corresponding encoded data block for each uncoded data

The article of manufacture of claim 35, wherein the first number is

- 1 37. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern represents a maximum amplitude peak in a constrained waveform that is 3 guaranteed to occur within the first number of bits.
- 1 38. The article of manufacture of claim 35, wherein the encoded data 2 blocks are generated using an encoder table.
- 1 39. The article of manufacture of claim 35, wherein decoding the encoded data block by determining the decoded data block corresponding to the encoded data block.
- 1 40. The article of manufacture of claim 35, wherein the encoding function 2 is performed by a finite state code.
- 1 41. The article of manufacture of claim 40, wherein one encoded data 2 block corresponds to multiple uncoded data blocks, and wherein a value of at least 3 one adjacent block is used to determine the uncoded data block that corresponds to 4 the encoded data block corresponding to multiple uncoded data blocks.
- 1 42. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises "010", each uncoded data block comprises eight bits, and each 3 encoded data block comprises nine bits.
- 1 43. The article of manufacture of claim 42, wherein the first number comprises twelve and the second number comprises six.
- 1 44. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises "010", wherein each uncoded data block comprises sixteen bits and 3 wherein each encoded data block comprises seventeen bits.

- 1 45. The article of manufacture of claim 44, wherein the first number comprises twenty bits and the second number comprises fourteen bits.
- 1 46. The article of manufacture of claim 44, wherein a correspondence of 2 uncoded to encoded data blocks comprises a finite state code scheme.
- 1 47. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises "111", wherein each uncoded data block comprises nine bits and 3 wherein each encoded data block comprises ten bits.
- 1 48. The article of manufacture of claim 47, wherein the first number is 2 fourteen.
- 1 49. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises "111", wherein each uncoded data block comprises sixteen bits, 3 and wherein each encoded data block comprises seventeen bits.
- 1 50. The article of manufacture of claim 49, wherein the first number is 2 twenty-one.
- The article of manufacture of claim 49, wherein a correspondence of uncoded to encoded data blocks comprises a finite state code scheme.
- 1 52. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises either "0100" or "0010", wherein each uncoded data block 3 comprises nine bits and wherein each encoded data block comprises ten bits.
- The article of manufacture of claim 52, wherein the first number is twelve.

- 1 54. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern comprises either "0100" or "0010", wherein each uncoded data block 3 comprises sixteen bits.
- 1 55. The article of manufacture of claim 54, wherein each encoded data 2 block comprises seventeen bits and wherein the first number comprises nineteen bits.
- 1 56. The article of manufacture of claim 54, wherein a correspondence of 2 uncoded to encoded data blocks comprises a finite state code scheme and wherein the 3 first number is fifteen.
- 1 57. The article of manufacture of claim 35, wherein the encoded data 2 block can be used in partial response and extended partial response systems.
- 1 58. The article of manufacture of claim 35, wherein the predetermined bit 2 pattern is included in one encoded data block or spans two encoded data blocks.